

Out of Hours

Sitting is the new smoking:

where do we stand?

An alien visitor to our planet would be perplexed by modern human life, not least our relationship with physical exertion. After 6 million years of hunter-gatherer existence, humans can be observed sheltering in warm rooms, counteracting the tiresome effects of earth's gravity by slouching on comfortable seats in front of glowing screens, being whisked effortlessly between floors aboard mechanical staircases, even soaring across continents while seated in warm moving boxes. Confusingly, however, a proportion of these same humans could later be spied spending their 'free time' running around outside in all weathers for no apparent reason or, stranger still, handing over money to an institution called 'the gym' to pass time repeatedly picking up and putting down heavy objects or running on a revolving mat until they were red and sweaty.

How would we explain this peculiarly binary behaviour to our inter-planetary visitor? We might start by describing the 'globesity' pandemic where inactivity is estimated to cause 9% of premature mortality worldwide.¹ We could extol the virtues of exercise, explaining its vital contribution to physical health and mental wellbeing, and advising that adults complete a minimum of 150 minutes per week of moderate to vigorous physical activity.² Our alien may nod politely while quietly wondering to herself why the very people dispensing this advice spend the majority of their day languishing in an office chair.

She has a point. Recent research suggests that sedentary lifestyles are themselves a risk factor for cardiometabolic morbidity and all-cause mortality, even when controlling for overall levels of moderate to vigorous physical activity.³ The fact that we can't erase the effects of a lifetime spent sitting at the desk (or on the sofa) with a few weekly trips to the gym is an inconvenient truth at a time when the majority of the population, GPs included, remain wedded to our desks and computers. So if sitting is the new smoking, how do we quit? One response has been the adoption of standing desks. It seems a simple and logical solution, and the trend is booming from offices to schools. It has even been suggested⁴ that GPs, being arguably the most sedentary breed of doctor, should consider introducing a two-tier consultation model with shorter acute consultations held standing up. But are we right to believe that standing is the solution to the sitting problem?

The obvious drawback is that standing still for extended periods is uncomfortable and may come with its own health implications (varicose veins, foot pain). It also requires willpower — a finite resource, known to be depleted when completing other mentally demanding tasks.⁵ Anecdotal reports reflect this, with some users reverting to sitting after the initial enthusiasm fades.

A systematic review of standing and treadmill desks in the workplace⁶ found few short-term improvements in physiological outcomes with standing desks. However, greater improvements were associated with treadmill desk use (although treadmill desks also resulted in larger decreases in work productivity and motor abilities). Meanwhile, the findings of the recent Whitehall II cohort study⁷ suggest that the relationship between sitting and morbidity may be more nuanced. Five different indicators of sitting time were examined over 81 373 person-years of follow-up, finding no associated mortality risk. The authors concluded that this may be due to the protective effect of higher than average daily activity in this cohort (mostly from walking) and postulated that previously reported relationships between sitting time and health outcomes may be due in part to low total daily energy expenditure rather than simply posture.

STRATEGIES FOR GPs

Clearly the bottom line is that GPs, along with the rest of the population, need to find sustainable ways of integrating physical activity throughout the working day rather than viewing exercise purely as an extracurricular activity. In Japan communal exercises at work, in the name of health and productivity, have been the norm for decades. An increasing number of employers in the West now recognise the importance of providing facilities for employees to exercise at work, citing additional benefits such as reduced employee stress and absenteeism, and increased productivity.

GP practices, being independent organisations, have freedom to implement changes, and strategies to this end could be adopted without major cost or disruption. Given that breaking up extended periods of sitting may have protective effects,⁸ a first step would be to capitalise on a natural reminder that all GPs are provided with at roughly 10-minute intervals throughout

clinics, and to get up to call our patients in. Other options include replacing office chairs with exercise balls, attending home visits on foot or bicycle, holding walking practice meetings, providing an active desk for admin work or telephone consultations, or replacing coffee breaks with short walks (weather and caffeine requirements permitting).

It is likely that future generations will look back at our sedentary working practices with the same incredulity that we now regard the idea of a smoke-filled office or aeroplane. With physical inactivity, stress, and burnout very real problems in general practice, it is time to prioritise and research activities that enhance, rather than deplete, our health and wellbeing at work.

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REFERENCES

1. Lee IM, Shiroma EJ, Lobelo F, *et al.* Effect of physical inactivity on major non-communicable diseases worldwide: an analysis of burden of disease and life expectancy. *Lancet* 2012; **380**(9838): 219–229.
2. World Health Organization. *Physical activity and adults. Recommended levels of physical activity for adults aged 18–64 years.* http://www.who.int/dietphysicalactivity/factsheet_adults/en/ [accessed 7 Apr 2016].
3. van der Ploeg HP, Chey T, Korda RJ, *et al.* Sitting time and all-cause mortality risk in 222 497 Australian adults. *Arch Intern Med* 2012; **172**(6): 494–500.
4. Rashid MA. Consultations in primary care should be held standing up. *BMJ* 2014; **348**: g1558.
5. Kahneman D. *Thinking fast and slow.* London: Penguin, 2012.
6. Torbeyns T, Bailey S, Bos I, Meeusen R. Active workstations to fight sedentary behaviour. *Sports Med* 2014; **44**(9): 1261–1273.
7. Pulsford RM, Stamatakis E, Britton AR, *et al.* Associations of sitting behaviours with all-cause mortality over a 16-year follow-up: the Whitehall II study. *Int J Epidemiol* 2015; **44**(6): 1909–1916.
8. Healy GN, Dunstan DW, Salmon J, *et al.* Breaks in sedentary time: beneficial associations with metabolic risk. *Diabetes Care* 2008; **31**(4): 661–666.